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Exclusive Interview

Grant Swinger on Cold Fusion, SSC, Space Station

Following is another in SGR's series of occasional interviews with Dr. Grant Swinger, Director of the Center for the Absorption of Federal Funds.

SGR. How do you see the Bush Administration shaping up in the science-policy area?

Swinger. That's best judged after they take office.

SGR. They've been in for over four months.

Swinger. Four months? As long as that. It is difficult to keep track of time in the absence of activity. But I can say that the general atmosphere in the country and in Washington is favorable to innovative approaches.

SGR. Example.

Swinger. Cold fusion. An exemplary case in the best tradition of the Center for the Absorption of Federal Funds. If I have any concerns, they're directed at my own institution for not doing it first. Think of it: No publication, just a press conference. And they get $5 million from the Utah legislature. Jim Fletcher, the ex-chief of NASA, joins up with them, and over a hundred corporations line up and plead for a piece of the action. It's on the covers of *Time* and *Newsweek*,

Part II, the Baltimore Hearing: Stonewalling and Evasion—P. 3

and Congress invites them in to talk about $25 million. And if there's anything there, no one can find it! This is a triumph. We've worked for years to get the Congress, the press, and the public to this stage.

SGR. Very unusual events.

Swinger. Actually, we've pulled this off in medical research many, many times. There's almost nothing that hasn't been reported cured or on the brink of a cure. But this has hardly ever been done in the physical sciences. The closest thing now going is the search for extra-terrestrial life, but that's never got beyond a small scale.

SGR. On cold fusion, there was some skepticism at the outset.

Swinger. That's bound to happen when you try to undercut other researchers in a field. The main opposition came from the hot-fusion tokamak crowd—very innovative people when it comes to protecting their territory. After the first report about cold fusion came out, they advised Congress not to put any money into it until it's proven.

SGR. That seems to be a prudent approach.

Swinger. Prudent to wait until it's proven? Hot fusion has been running 30 years without anything proven. And they're now at $400 million a year.

SGR. They feared competition?

Swinger. It was potentially very embarrassing, very threatening, this tabletop stuff for a mere $100,000. But do you know the worst of it?

SGR. What?

Swinger. The worst of it was that these fusion researchers shouted that they used their own money. As far as I'm concerned, that's unforgivable. They're cannibals. Whether or not cold fusion works is a minor matter. But using their own money. The precedent, I mean—

SGR. Please, calm down, Dr. Swinger. What are you planning at your Center?

Swinger. We have a number of activities. Inspired by recent events, we're working on an alternative to the Superconducting Super Collider.

SGR. What will that be?

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In Brief

Louis W. Sullivan salvaged his nomination as Secretary of Health and Human Services with an unabashed reversal of his previous support for freedom of choice on abortion. He might have lost out if he weren't the only black in the Bush cabinet. With the backing of the White House, wary right-to-lifers have since been given veto power over all other senior HHS appointments. Among the leading opponents of abortion: Assistant Secretary of Health James O. Mason. In the HHS hierarchy, he's chief of NIH and chairs the search committee for a successor for departing NIH Director James B. Wyngaarden.

The dwindled condition of the White House Office of Science and Technology Policy: A request for the text of a recent speech by Director William R. Graham, the temporary holdover from Reagan days, brought the reply: He usually speaks from notes which are then transcribed, but the staff is now too shorthanded to do the job.

The incoming Director, D. Allan Bromley, of Yale, has been "in and out" of OSTP several times in recent weeks, a staff member there tells SGR. But Bromley's appointment remains bogged down in the torpid pace afflicting most other Bush appointees. The intention to nominate Bromley was announced April 20 by the White House, but as of May 26, the nomination had still not been sent to the Senate.

Invitation last month to Washington medical writers from the drug firm Pharmacia, Inc: "Come join us. . . for an elegant Swedish smorgasbord Clinical Breakfast presenting Advances in Treatment of Inflammatory Bowel Disease." SGR sent regrets.

. . . Tabletop SSC: "53 Inches Better than 53 Miles"

(Continued from Page 1)

Swinger. Table-top particle acceleration. Our motto is: "Fifty-three inches is better than 53 miles. One in each state." The politics are sound, even better than our old proposal for a trans-continental linear accelerator that would run across a dozen or so states. That would have brought in 24 Senators and maybe a hundred Congressmen.

SGR. Is table-top particle acceleration feasible?

Swinger. We're going about this in the right way to find out. First, we're setting up a task force to plan a workshop preliminary to holding a conference. Next comes a call for papers. Then we'll circulate the proceedings for comment and issue a draft report. A small conference will follow to oversee preparation of the final report. This is the standard way of approaching these things. We'd be criticized if we went about it in any other fashion.

SGR. If I may say so, table-top particle acceleration does seem too far-fetched to warrant all that effort.

Swinger. This is an open-ended business. Opportunities can be anyplace. A lot of people thought that Star Wars was too far-fetched to get a nickel. But there it is. And what about the manned space station?

SGR. What about it?

Swinger. It's terrific. No one knows how much it will cost or what it's supposed to do. But it's going ahead. That's an ideal project, in our view.

SGR. What do you foresee as new growth areas?

Swinger. There's a lot of talent out there working up new possibilities. We were worried about the Department of Energy losing that old entrepreneurial spirit, but they reassured us all by cooking up the mapping of the human genome. It's not really their business, but that lit a fire under NIH and they've moved into the genome trade. Of course, it also took a little nudging about the Japanese rushing into this before Congress came across with the money. But bless the Japanese. They've arrived just as the steam was going out of the warnings about how we have to beat the Russians in this or that. What would we do without the Japanese? Without them, superconductivity research would be in the poor house.

SGR. What else do you see ahead for growth in science and technology?

Swinger. The greenhouse effect is bound to be a gold mine. And we see a lot of forthcoming activity devoted to agonizing over scientific priorities: Conferences, white papers, congressional hearings, and all the usual stuff. It's a small industry all by itself.

SGR. In this period of economic challenge, well-chosen scientific priorities are very important for making the best use of valuable scarce resources, aren't they?

Swinger. What?

SGR. I was noting the importance of well-chosen scientific priorities.

Swinger. I see. Excuse me, I'm late for a meeting.

Budget Plan Trims R&D

The $1.2 trillion budget resolution adopted by Congress last month takes a substantial bite out of the financial aspirations of several major federal research agencies for fiscal 1990, which begins October 1. The agreed-on sums amount to an increase over current appropriations for science, but not as much of an increase as the White House had requested.

The Reagan-Bush budget that was sent to Congress at the beginning of this year called for $15.5 billion in budget authority for function 250 (general science, space, and technology), which includes the National Science Foundation, NASA, and basic research in the Department of Energy. That represented a $2.8 billion increase over current budget authority.

Congress reacted by cutting over $1 billion from the Administration's request for NASA. NSF and DOE suffered cuts of about $50 million each in requested increases of approximately $250 million apiece.

The next phase in the budget process takes place in the Appropriations Committees, which divvy up the total sum in the budget resolution among their 13 Subcommittees. The agencies assigned to each of these often bear no relation to each other (NSF and NASA, for example, are bunched with Housing and Urban Development and the Department of Veterans Affairs).

The zero-sum competition for the common pot of money in these Subcommittees can be ferocious. For the past two years, White House plans for doubling the NSF budget over the 1988-92 span have been thwarted at the Subcommittee level. The doubling plan, endorsed by Bush, has since been quietly extended to 1993. But if the budget resolution cuts are sustained, the goal may slip again.

On the bright side for NSF, DOE, and NASA, the big budget resolution contains major increases for housing and for veterans, thus potentially relieving some of the financial pressures. But no one is sure of anything on Capitol Hill.

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Editor and Publisher
Daniel S. Greenberg

Associate Publisher
Wanda J. Reif

European Correspondent
Francois Seguier (Paris)

Circulation Manager
Glen D. Grant

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Baltimore Hearing (Part II): A Torrent of Thin Alibis

Continuing from the last issue of SGR, this concludes a two-part report on Congressional hearings May 4 and 9 on the scientific establishment's response to allegations that errors were knowingly tolerated in a research paper whose coauthors included Nobelist David Baltimore, of MIT.

The renown of David Baltimore, and the rare spectacle of a Congressional committee delving into the delicate, sacrosanct processes of scientific research, packed the hearing room for two day-long sessions and produced heavy press coverage. The press reports were of the variable quality that arises from hurried writing about abstruse and contended matters. But there is no doubt, even by the scorekeeping in Chairman John Dingell's camp, that Baltimore and his colleagues scored a smashing public-relations triumph, as exemplified by a searing editorial May 17 in Dingell's hometown *Detroit News* titled: "Dingell's New Galileo Trial."

As described in SGR (May 15), they triumphed by cultivating the press and exploiting its tendency to personify complex issues. The framework of reporting in many instances was Dingell v. Baltimore, the harsh Congressional warlord persecuting the brilliant, dedicated scientist (who several times reminded listeners that his research was directly relevant to AIDS).

However, close examination of testimony given by the main parties in the controversy reveals that, in substance, the hearings were anything but a triumph for Baltimore and other defenders of the disputed paper. The latter include MIT and Tufts, whose 1986 dismissal of the allegations concerning the paper were later overridden by an independent panel of specialists appointed by NIH. At the hearings, legitimate questions were often greeted by evasions, stonewalling, and misrepresentations. And when questions were answered candidly, the ensuing implications were often deeply embarrassing to some of the parties involved. The victory was no credit to the traditional values of science.

Against the background of High Noon-style reportage, it is also worth keeping in mind that the recent hearings, and one held in April 1988 by Dingell, were focused on a single question: How, in this instance, did NIH and its grantee institutions deal with allegations of improper use of federal research funds? The subject is properly within the purview of the House Energy and Commerce Committee and its descriptively titled Subcommittee on Oversight and Investigations. Chaired by Dingell, they have jurisdiction over the National Institutes of Health, which financed the research for the disputed paper.

Following are verbatim excerpts from the May hearings, edited for brevity by SGR.

* * *

Bruce Chafin. [Subcommittee staff, to Joseph M. Davie, Searle Pharmaceuticals, Chairman of the panel appointed by NIH to investigate the disputed paper] In the *Cell* article, that experiment that was reported to be done was not, in fact, done?

Davie. Was not done. . . . The mistake was in saying that they had done that experiment in the animals that were described in Table 2. They did not do that. They, in fact, had done it with different animals and had come to that conclusion.

Chafin. So, they described an experiment that was not done.

Davie. That's correct.

Chafin. Is that misconduct?

Davie. I believe it is misconduct. I believe that we also recommended that be corrected. . . .

Chafin. Did you say "misconduct" in your report?

Davie. We called it a serious error.

Chafin. In an earlier draft, it said that there was no fraud, misconduct, and, I believe, several other things. I think you actually struck out the word misconduct. . . .[The final report stated the panel found "no evidence of fraud, misconduct, manipulation of data, or serious conceptual error.] What happened to that? You were the Chairman of the panel.

Davie. We obviously discussed how to describe these problems. . . . You may call it misconduct. I cannot argue with that. Yes, it's misconduct. Any time one describes something that's not accurate, that's not right. That's misconduct. . . . But we called it a serious error. It is a subtlety. I'm not sure I can defend it at this juncture. . . . If you call misconduct an intent to deceive or to do wrong, that's a problem. That's clearly misconduct. It was not possible to be sure that they intended to deceive in that way. . . .

Chafin. Were you ever asked to look at intent by Dr. Wyngaarden [Director of NIH] or as part of your charter?

Davie. Part of our charter was to deal with whether there were data in the data books that fit the data in the *Cell* paper and whether the conclusions were correct.

Chafin. Right. So, there wasn't any look for intent.

Davie. Right.

Chafin. So, you're saying that you conduct an investigation and. . . you need to know the intent, but you're not asked to look for intent.

Davie. That's correct.

Following discussion of other issues, Rep. Ron Wyden (D-Ore.) returned to the subject of intent.

Wyden. Are you all supposed to look at the subject of intent in these matters?

Davie. We talked about that before. . . I really gave misinformation. Part of the charge of the committee was to come forward with an opinion of whether misconduct had been perpetrated in generating the information. So we were asked by the NIH to come forward with our opinions of whether misconduct was involved. Our impression is that misconduct means intent.

Wyden. Was it your impression that there was misconduct in this area, Dr. Davie? *(Continued on Page 4)*

. . . Baltimore States Regret for Accusatory Letter

(Continued from Page 3)

Davie. No.

* * *

The hearing turned to an incriminating letter Baltimore wrote on September 9, 1986, to Herman Eisen, an MIT Professor of Biology, who investigated the disputed Cell *paper for MIT. The letter was written after Eisen reported to Baltimore on a conversation he had with Imanishi-Kari. Marked "confidential," Baltimore's letter noted that a reagent cited in the paper "doesn't do as described," adding: "Why Thereza chose to use the data and mislead both of us and those who read the paper is beyond me." The letter concluded that "a retraction would harm the innocent and raise doubts about quite solid work." At the hearing, Baltimore repudiated the letter as the product of a misunderstanding arising from Imanishi-Kari's poor command of English.*

Wyden. Were you aware of that memo [the Baltimore letter] at the time of your panel's deliberations [which took place in 1988]?

Davie. We were not.

Wyden. Is it correct that other staffers at NIH had that memo, but it was not transmitted to you at the time of your panel's deliberations?

Davie. That's as I understand it.

Wyden. When did you finally become aware of the particular letter I'm asking about.

Davie. My own [first] knowledge was last week.

Wyden. When did you, Dr. Wyngaarden, become aware?

Wyngaarden. Either on April 19 or 20 [1989] . . . .

Wyden. Dr. Davie, it was very relevant to your inquiry, was it not?

Davie. We would have liked to have known about it. . .

Wyden. [To Wyngaarden] What was your reaction to the letter when you saw it?

Wyngaarden. I thought it was very damaging, and it wasn't until a few days later that I had a chance to review all the collateral material relating to that letter. I changed my mind about it after that. My initial reaction was as I have indicated, but I think in retrospect, it has been explained. . .

* * *

The Subcommittee took up various other issues and then returned to the disputed letter with Baltimore himself.

Wyden. The real issue that we're concerned about in Congress is how the scientific community deals with allegations. . . . My reading of the letter. . . is that the principal concern. . . is to protect the lead author [by advising against a retraction] and in effect question someone junior. My sense is, if this is what's done by our very finest—those who win the Nobel Prize—what does that say about scientific procedure?

Baltimore. Mr. Wyden, I can only continue to apologize. It does not to me now represent good judgment, what I said in the letter, and I fully believe that when I had calmed down from a sense of outrage and loss of trust, which was driving my feelings at the time, that I would have quickly seen that was not an appropriate solution, and that I would have insisted. . . that if an error like that is found, it needs to be acknowledged, and as quickly as possible.

* * *

Three Secret Service technicians, engaged by the Dingell Subcommittee, testified that dates were altered in Imanishi-Kari's laboratory notebooks related to the paper, and that pages dated 1984 and 1985 [when the research was said to have been performed] were actually written in 1986, at about the time dispute was flaring about the Cell *paper. Wyden took these matters up with Baltimore.*

Wyden. Why weren't the various panels that were looking at the '84 data told it wasn't put together until '86?

Baltimore. I don't think that's a question I can answer.

Wyden. What about the matter of the changing of dates?

Baltimore. What about it?

Wyden. How do you view the alteration of dates?

Baltimore. I alter dates all the time when I get them wrong.

Wyden. But, Dr. Baltimore, Dr. Davie and Dr. Wyngaarden

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Science: On Bended Knee

An entertaining sideshow to the Baltimore affair has been the performance of *Science*, which usually surmounts its captive status in the American Association for the Advancement of Science, but this time didn't.

In the view of Editor Daniel E. Koshland Jr., science is purer than Ivory soap ("99.9999 percent of [published scientific] reports are true," he proclaimed in a 1987 editorial). Those who suspect otherwise, or who seek to enlist the journal in investigating scientific delinquency, are not well received. In these matters, the tilt of coverage is toward authority and the establishment, whose major figures are treated reverentially. Nowhere has this been more apparent than in the *Science* accounts of the House inquiry into the now-vindicated doubts an uppity junior scientist raised about a paper coauthored by a cardinal of the scientific establishment.

"Congressman John Dingell did his level best to pillory Nobel laureate David Baltimore"—thus opened the *Science* account of the recent hearings. In fact, Dingell and colleagues patiently endured hours of evasions in their efforts to find out why MIT and Tufts whitewashed a flawed paper that an independent NIH panel later flagged for serious errors. And NIH has reopened its inquiry for another look.

Science noted that the hearing ended with elation among Baltimore and his supporters. "But," it ominously added, "there was also a sense of caution, even fear. 'Dingell now is like a wounded animal,' said one. There is no telling what will come next." Not even the PR man at David Baltimore's Whitehead Institute could top that.

. . . MIT, Tufts Stand by Their Whitewash Reports

(Continued from Page 4)

Wyngaarden were concerned about the alteration of the dates in this particular case, and the way it was done, as well. Do you share their concern?

Baltimore. I believe, if I remember their testimony correctly, that they were concerned—well, I don't even remember that they were concerned.

Wyden. Sure they were. They said they were concerned about the alteration of the dates, and they said they were concerned about the way it was done. . .

Baltimore. That was their answer to the question. My answer to that question is different. . . .

Dingell then took up the disputed letter.

Dingell. . . . after you wrote the letter. . . did you go to Dr. Imanishi-Kari to discuss what had transpired, or did you not?

Baltimore. No, I did not.

Dingell. How did you come to the conclusion, then, that the letter was incorrect?

Baltimore. Since I had made my original decision on the basis of a discussion with Dr. Eisen, I decided that I'd leave well enough alone, and that if he was convinced, since it was only his word that I had to go on, that the incident was closed . . .

Dingell. . . . the Committee finds no letter or memorandum in your files that was produced [under subpoena] negating the September 9 letter. . . . Dr. Eisen was unable to produce anything in writing in the 1986 timeframe negating the statements of Dr. Imanishi-Kari on this matter. Can you enlighten us as to why not?

Baltimore. It's because we use the telephone. We don't keep telephone logs, and we don't keep records of conversations. We're all friends, and just, you know, kind of talk together.

Dingell. Let me read from the handwritten note of Dr. Eisen, which says as follows: "TIK's [Thereza Imanishi-Kari's] remark, 'I knew it all along,' means that she knew that many Bet-1 preps [preparations of a reagent in the experiment] were no good. . . But, of course, as she has later clarified, some are good. But why oh why was this not indicated everywhere, and especially in the paper? It would have saved so much grief and cost to so many people and institutions." . . . .

Baltimore. I know nothing about that note. This is the first I've ever heard of it.

Dingell produced two other memos by Eisen, one dated August 4, 1986, when the controversy over the paper was under way.

Dingell. [Quoting] "Spoke with [David] Weaver [a coauthor of the *Cell* paper] today, and he and I agreed that an erratum on the allotype should be submitted. . ." Now, Dr. Baltimore, do you agree with the conclusions. . . with regard to the need for an erratum on the allotype?

Baltimore. No, sir, I don't believe that there was a need for an erratum on the allotype. . . .

Dingell. Dr. Weaver, you and Dr. Eisen discussed this matter. Did you agree with him that an erratum should have been submitted?

Weaver. I don't even remember that conversation, if it was a conversation. . . .

Dingell. Now, in that note, which describes a conversation between yourself and Dr. Eisen, he says you and he agreed that an erratum should have been submitted. Did you make such an agreement?

Weaver. I don't remember.

Dingell. Should such an erratum have been submitted?

Weaver. No, I don't think so.

* * *

The second day of hearings, May 9, produced the following exchange with Henry Wortis, the Tufts Professor of Pathology who investigated O'Toole's allegations in 1986 and pronounced them baseless.

Dingell. Were those concerns [raised by O'Toole] valid or invalid?

Wortis. Invalid. . . . Because when we looked at the data. . . we found that they supported the conclusions [of the *Cell*] paper, as the NIH panel has subsequently found.

Dingell. Well, as a matter of fact, the NIH panel's work resulted in two corrections, did they not?

Wortis. I believe there are some what you would call corrections, what I would call clarifications. But they left the central conclusions standing. That's the important point, isn't it? . . . .

Dingell. Why didn't your panel require the same clarifications?

Wortis. We did not. This is a scientific judgment, in my view, and we did not feel they were necessary.

Dingell. Are you telling us, then, you disagree with the NIH's panel's findings?

Wortis. I'm saying what our views were and the NIH had its own reasons for reaching its own conclusions.

* * *

Next was a group of witnesses from MIT, including Professor Herman Eisen, who was queried about his investigation of O'Toole's charges.

Dingell. Did you look at the notebooks?

Eisen. I did not look at the notebooks.

Dingell. Did you know at the time that you were inquiring into this matter whether all of the experiments which were purported to have been made were in fact made or not made?

Eisen. No, I did not know that, and I couldn't have known that and, in fact, the question was never raised. That whole question of experiments not having been done was not raised by Dr. O'Toole then or until very recently, so far as I know. [It actually was raised, though peripherally, at the outset of the controversy when O'Toole contended that the published paper was not supported by laboratory data.]

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. . . Agreed-Upon Erratum "Fell Through Cracks"

(Continued from Page 5)

The hearing turned to the Eisen memo reporting the conversation that Weaver couldn't recall, regarding publication of a correction.

Dingell. . . . in your notes of that discussion, it says that you and he agreed that an erratum on [the reagent] Bet-1 should be submitted. Is that correct?

Eisen. Yes.

Dingell. Was that erratum submitted?

Eisen. No, it was not, Mr. Chairman. It was one of those—it was an issue that we waffled about on a lot. . . . But I didn't push it. I think it would have been maybe wiser to have pushed it, in a political sense, but I didn't push it, because it's a very minor point. . . .

Dingell. I'm trying to understand with whom did you have to push it. Who would have to agree to the erratum? Dr. Weaver agreed, you agreed, somebody didn't agree, so it wasn't done. Now, who else was it that disagreed?

Eisen. Let me put it this way: the question is who would write such an erratum? Did Dr. Imanishi-Kari write it alone, since it's an erratum that arose from her own. . . Should all the authors participate? . . . And so, it sort of fell through the cracks. But believe me, Mr. Chairman, it's a pretty minor point. . . . In the very small print [of the *Cell* paper] in the methodological section, ideally, what should have been stated is that many preparations of this antibody do not work.

* * *

Dingell concluded the hearings in a colloquy with Eisen and John Deutch, Provost of MIT.

Dingell. The visible result of all this is that Dr. O'Toole is sitting in this room with her career in shambles and a number of other people are prospering mightily. . . .

Eisen. Well, I don't think that Dr. O'Toole's career has to be in shambles. I think it would be possible for her to get a job and to continue in science.

Dingell. At MIT?

Eisen. Could be, if she found a laboratory. . . .

Deutch. If Dr. O'Toole made application to MIT and one of the laboratories found her qualifications consistent with their requirements, I think she'd be hired at MIT. . . .

Dingell. I'm curious, what is the message this sends to others who have similar concerns with the validity of research . . . It says that you blow the whistle at considerable peril, doesn't it?

Deutch. I believe that, irrespective of rank, whether it's a post-doctoral, or a student, or faculty member who wishes to draw a question about the interpretation or the accuracy of someone's work—I think that's one thing. But when somebody, irrespective of rank, raises a question which can be interpreted [as being] about fraud, than it really does make it a much more serious matter in our scientific community, because of the way fraud is viewed.

SGR editor's note: On that crucial point, Wortis, of Tufts, had testified as follows: "It is important to note that at that time [1986, when O'Toole initially expressed reservations about the *Cell* paper], Dr. O'Toole was not asserting any charge of fraud. We specifically discussed that on more than one occasion and she assured us that she was not accusing Dr. Imanishi-Kari of fraud but rather was questioning certain of the conclusions of the *Cell* paper."

(SGR will carry notice when the official transcript of the hearing is published, probably late in the summer.)

Job Changes, Appointments

Senior posts are slowly filling at the Department of Commerce, designated in last year's trade bill as the focal point for expanded federal efforts to boost industrial technology.

Thomas J. Murrin, former President of the Westinghouse Energy and Advanced Technology Group, was nominated last week for the No. 2 position in Commerce, Deputy Secretary.

Previously nominated for Commerce Under Secretary for Economic Affairs: ***Michael J. Darby***, who was Professor of Economics, UCLA, before serving as Assistant Secretary for Economic Policy at the Treasury Department from 1986 to the present. So far, there's neither a nomination nor firm rumors for the newly created post of Commerce Under Secretary for Technology.

Charles E. Hess, Dean of Agricultural and Environmental Services, UC Davis, has taken office as Assistant Secretary of Agriculture for Science and Education.

John A. Armstrong, IBM Vice President for Research, has been named IBM Vice President for Science and Technology, succeeding ***Ralph E. Gomory***, who is retiring to become President of the Alfred P. Sloan Foundation. Following Bush's election, Gomory was reportedly on a short list for White House Science Adviser, but he is said to have declined the honor.

William Lenoir, former astronaut and NASA executive and currently a Vice President of Booz-Allen & Hamilton, Inc., has been appointed NASA Associate Administrator for the space station.

David Baltimore, Director of the Whitehead Institute for Biomedical Research, MIT, has been elected Chairman of the Board of the Scientists' Institute for Public Information, a New York-based non-profit organization that aims to match up inquiring journalists with knowledgeable scientists. He succeeds ***Lewis Thomas***, scholar-in-residence at Cornell University Medical Center, who has stepped down after chairing the board since 1982.

Judith Wasserheit, Assistant Professor of Medicine at Johns Hopkins School of Medicine, has been appointed head of a newly created Sexually Transmitted Diseases Branch at the NIH National Institute of Allergy and Infectious Diseases.

. . . In Print (Cont.): Preventive Medicine, Biotech

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DC 20523; tel. 703/243-9235.

Guide to Clinical Preventive Services (350 pp., $19.95, scheduled for publication in July), in the genre of doctors warning us away from doctors, a report by the US Preventive Services Task Force, a 20-member group appointed in 1984 by the US Department of Health and Human Services. The task force, chaired by Robert S. Lawrence, Director of the Division of Primary Care, Harvard Medical School, recommended over 100 clinical interventions for the prevention of 60 diseases and conditions. An announcement accompanying release of a pre-publication draft quotes Chairman Lawrence as saying that "the key to improved health and disease prevention often lies in lifestyle changes made by patients rather than in the broad testing or sophisticated medical procedures performed by health providers."

Order from: William and Wilkins, PO Box 1496, Baltimore, Md. 21298; tel. 1-800/638-0672.

Aerospace Technology Centres (194 pp., $245), first edition, a directory of over 700 research organizations worldwide concerned with space vehicles, engineering, propulsion, tracking, biology, earth observation, etc. Included are full titles of the organizations, addresses, telecommunications numbers, senior personnel, publications, sources of funding, etc.

Order from: Gale Research, Inc., Book Tower, Detroit, Michigan; tel. 1-800/223-GALE.

Impact of Science on Society (quarterly journal, published by UNESCO, $52 per year, $14 per copy), of which the latest issue is on "Science Popularization in a Changing World." Among the article titles: "Public Dialogue on Science in Sweden," "Museology and Scientific Culture," "The Promotion of Science in an African Country," "Is Good, Popular Science Television Possible?" and "Science Through the Cartoonist's Eye."

Order from: Taylor & Francis, Journals Department, 242 Cherry St., Philadelphia, Pa. 19106-1906; tel. 1-800/821-8312.

Biotechnology: Economic and Wider Impacts (112 pp., $20), report from the Organization for Economic Cooperation and Development, projects scientific and technical trends in biotech over the next decade, its diffusion into society, and the potential impacts on competitiveness and employment.

Available from booksellers and OECD offices. In the US: OECD Publications and Information Center, 2001 L St. NW, Suite 700, Washington, DC 20036-4095; tel. 202/785-6323.

International Science Association Plans Inaugural Meeting in October

About a dozen senior officials from scientific organizations in several countries are scheduled to meet October 3-6 in Hanover, West Germany, for what is described as the inaugural meeting of the International Association for the Advancement of Science. Creation of the Association was proposed by Anthony Michaelis, a veteran British science journalist and publisher, who has organized the meeting with the assistance of $20,000 from the Volkswagen Foundation.

According to a draft constitution, the Association will comprise national organizations devoted to the advancement of science. Among the stated objectives are "To make politicians and the public understand the significance of science in the peaceful progress of mankind," "To attract again the elite of young persons to scientific careers," and "To counter unjustified criticism of science."

Michaelis reports that among those who have accepted invitations to attend are: Richard Nicholson, Executive Officer of the American Association for the Advancement of Science, and his predecessor, Alvin Trivelpiece; William T. Golden, Treasurer of the AAAS; Jivo Kondo, President of the Science Council of Japan; David Morley, of the British Association for the Advancement of Science; M. Shamsul Huq, Bangladesh University Grants Commission, and H. G. Wittmann, Director of the Max-Planck-Institute for Molecular Genetics, West Berlin.

NAS Studying Computer Security

The National Academy of Sciences has announced that it is conducting a study of computer security under contract to the Defense Advanced Research Projects Agency. David D. Clark, of MIT, is Chairman of the NAS study panel.

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In Print: Defense Technology, NSF Reports, China

The publications listed are obtainable as indicated—not from SGR.

Holding the Edge: Maintaining the Defense Technology Base (GPO Stock No. 052-003-01150-6; 187 pp., $9), by the Congressional Office of Technology Assessment (OTA), says that the Pentagon's sprawling research enterprise is a collection of independent, uncoordinated fiefdoms, among which are "too many DOD facilities whose contribution to the defense technology base is difficult to discern." Uncharacteristically tart and critical for OTA, the report warns that DOD's enormously costly way of doing research is an anachronism that the US can no longer afford. Among its observations: "The Services are often reluctant to support technology base initiatives that challenge their current mission or fighting doctrine, and because they dominate the technology base planning process, they are in a position to discourage such initiatives." The report was requested by the Senate Armed Services Committee, as was a related OTA report published last year: ***The Defense Technology Base: Introduction and Overview*** (GPO Stock No. 052-003-01099-2; 113 pp., $5).

Order from: Superintendent of Documents, USGPO, Washington, DC 20402-9325; tel. 202/9325. (For international orders, add 25 percent to price.)

Publications List: 1978-88, Division of Science Resources, National Science Foundation (NSF 88-335, 28 pp., no charge), contains the titles and ordering information for hundreds of publications issued by the NSF division that compiles the basic statistical data on R&D expenditures, manpower, programs, related educational activities, etc.

Order from: NSF, Division of Science Resources Studies, 1800 G St. NW, Washington, DC 20550; tel. 202/634-4634.

China Exchange News: A Review of Education, Science, and Academic Relations with the PRC (26 pp., no charge), quarterly published by the National Academy of Sciences Committee on Scholarly Communication with the People's Republic of China. Titles in the current issue include: "The Effect of China's 'Business Fever' on Higher Education at Home and on Chinese Students in the US," by Leon A. Orleans, and "The Economics of Higher Education Reform in China," by Todd M. Johnson.

Order from: National Academy of Sciences, Committee on Scholarly Exchanges with the People's Republic of China, 2101 Constitution Ave. NW, Washington, DC 20418; tel. 202/334-2718.

State Government Legislation on Biotechnology (in press, no charge), by the Industrial Biotechnology Association (IBA), Washington-based lobby of the biotech industry, first of what is described as a quarterly survey of biotech-related legislation by state legislatures, of which 24 were found to have passed or to be considering measures. The main legislative topics were state-funded advisory committees, DNA testing, and environmental release. Fifty-one bills are listed in the survey, of which five were passed this year.

Order from: IBA Biotechnology Information Center, 1625 K St. NW, Suite 1100, Washington, DC 20006; tel. 202/857-0244.

The 1989-90 Fact Book on Higher Education (287 pp., $41.95), by the American Council on Education, contains data on student enrollments and trends, degrees awarded, faculty numbers, demographics, academic finance, etc.

Order from: ACE/Macmillan Series on Higher Education, Macmillan Publishing Co., 866 Third Ave., New York, NY 10022; tel. 1-800/257-5755.

Bioenergy Systems Report, April 1989 (44 pp., no charge), latest in an occasional series from the Office of Energy, US Agency for International Development, reports on the agency's Biomass Energy Systems and Technology Project, which AID says is designed to "assist developing countries in utilizing biomass resources for the production of energy and related byproducts." Included are reports on activities in the US, Indonesia, and Costa Rica

Order from Office of Energy Research, Bioenergy Systems and Technology Project, Room 508, SA-18, Washington,

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